

What is claimed is:

1. A method of seamlessly reproducing a plurality of data streams that include packet data with arrival time stamps determined to be unrelated to each other, the method comprising:  
generating control information for controlling output times of the plurality of data streams for seamless reproduction; and  
continuously reproducing the plurality of data streams based on the generated control information.
2. The method of claim 1, wherein the control information specifies a reference time value and one of a reproduction gap length value and an offset value.
3. The method of claim 2, wherein the reference time value is obtained by adjusting an arrival time stamp of first packet data of a current data stream so that the current data stream is reproducible immediately after reproduction of a previous data stream without a pause.
4. The method of claim 3, wherein the reproduction gap value is a time value indicating an interval of time between reproduction of last packet data of the previous data stream and the first packet data of the current data stream.
5. The method of claim 4, wherein the reproduction gap value is obtained by calculating a difference between the reference time value and an arrival time stamp value of last packet data of the previous data stream.
6. The method of claim 3, wherein the offset value is added to the arrival time stamp value of each packet data of the current data stream so that the current data stream can be reproduced immediately after reproduction of the previous data stream without a pause.
7. The method of claim 6, wherein the offset value is obtained by calculating a difference between the reference time value and the arrival time stamp value of the first packet data of the current data stream.

8. An apparatus for seamlessly reproducing a plurality of data streams that include packet data with arrival time stamps determined to be unrelated to each other, the apparatus comprising:

a reproduction controller which reads the plurality of data streams from a storage medium;

a counter which is driven in response to a system clock signal and reset based on the arrival time stamp of first packet data of each of the plurality of data streams read by the reproduction controller;

an arrival time stamp processor which removes the arrival time stamps from the packet data of the plurality of data streams and outputs only the packet data; and

a controller which generates control information for controlling output time of the respective packet data for seamless reproduction of the plurality of data streams, and controls operation of the counter or the arrival time stamp processor based on the control information.

9. The apparatus of claim 8, wherein the control information specifies a reference time value and one of reproduction a gap length value and an offset value.

10. The apparatus of claim 9, wherein the reference time value is obtained by adjusting an arrival time stamp of first packet data of a current data stream so that the current data stream is reproducible immediately after reproduction of a previous data stream without a pause.

11. The apparatus of claim 10, wherein:  
the reproduction gap value is a time value indicating an interval of time between reproduction of last packet data of the previous data stream and the first packet data of the current data stream, and  
the controller transmits a control signal indicating when the counter must be reset, to the counter for seamless reproduction of the plurality of data streams, the control signal being obtained by combining an arrival time stamp of last packet data of the previous data stream and the reproduction gap value.

12. The apparatus of claim 11, wherein the reproduction gap value is obtained by calculating a difference between the reference time value and an arrival time stamp value of the last packet data of the previous data stream.

13. The apparatus of claim 11, wherein:

the offset value is added to the arrival time stamp value of each packet data of the current data stream so that the current data stream is reproducible immediately after reproduction of the previous data stream without a pause, and

the controller changes an arrival time stamp value of first packet data of the current data stream into the reference time value, changes arrival time stamp values of the remaining packet data by adding the offset value to the arrival time stamp values, and provides the changed arrival time stamp values to the arrival time stamp processor.

14. The apparatus of claim 13, wherein the offset value is obtained by calculating a difference between the reference time value and the arrival time stamp value of the first packet data of the current data stream.

15. A computer readable medium for seamlessly reproducing a plurality of stream objects comprising packet data and an arrival time stamp, the computer readable medium comprising instructions which:

instruct a processor to adjust an arrival time stamp of first packet data of a current stream object based on a reference time and one of a gap length value and an offset value; and

instruct the processor to reproduce the current data stream immediately after a previous data stream without a pause based on the adjusted arrival time stamp.

16. The computer readable medium of claim 15, further comprising instructions which:

instruct the processor to determine the gap length value as an interval of time between reproduction of last packet data of the previous data stream and the first packet data of the current data stream.

17. The computer readable medium of claim 16, further comprising instructions which:

instruct the processor to determine the gap length value by calculating a difference between the reference time value and an arrival time stamp value of last packet data of the previous data stream.

18. The computer readable medium of claim 15, further comprising instructions which:

instruct the processor to add the offset value to the arrival time stamp value of each packet data of the current data stream.

19. The computer readable medium of claim 18, further comprising instructions which:

instruct the processor to determine the offset value by calculating a difference between the reference time value and the arrival time stamp value of the first packet data of the current data stream.